I hereby certify that this correspondence is being filed via
EFS-Web with the United States Patent and Trademark Office
on January 25, 2011.

KILPATRICK TOWNSEND & STOCKTON LLP

By: /Patricia A. Diehl/
Patricia A. Diehl

PATENT
Attorney Docket No. 16222U-016500US
Client Ref. No. P-00886

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Loc Nguyen Application No.: 10/678,034 Filed: September 30, 2003 For: METHOD AND SYSTEM FOR PROVIDING A DISTRIBUTED ADAPTIVE RULES BASED DYNAMIC PRICING SYSTEM	Confirmation No. 6679 Examiner: Akiba K. Robinson Boyce Technology Center/Art Unit: 3628 APPELLANTS' BRIEF UNDER 37 CFR §41.37

Mail Stop Appeal Brief
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Further to the Notice of Appeal mailed on January 25, 2011 for the above-referenced application, Appellants submit this Brief on Appeal, in response to the Final Office Action mailed on October 7, 2010.

TABLE OF CONTENTS

I. REAL PARTY IN INTEREST 3

II. RELATED APPEALS AND INTERFERENCES 3

III. STATUS OF CLAIMS 3

IV. STATUS OF AMENDMENTS 3

V. SUMMARY OF CLAIMED SUBJECT MATTER 3

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL 8

VII. ARGUMENT 9

VIII. CONCLUSION 24

IX. CLAIMS APPENDIX 25

X. EVIDENCE APPENDIX 32

XI. RELATED PROCEEDINGS APPENDIX 33

I. REAL PARTY IN INTEREST

The real party in interest of the subject patent application is Visa U.S.A. Inc., the assignee of the application.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

III. STATUS OF CLAIMS

Claims 1-5, 7-9, 62, 64-65, 68, 70, 72, 76-78, 80-81, 83, 87-90, and 95-98 are pending and are finally rejected. Claims 6, 10-61, 63, 66-67, 69, 71, 73-75, 79, 82, 84-86, and 91-94 have been cancelled. Appellants appeal from the rejection of all pending claims.

IV. STATUS OF AMENDMENTS

None.

V. SUMMARY OF CLAIMED SUBJECT MATTER

In the following summary, Appellants have provided exemplary references to sections of the specification and drawings supporting the subject matter defined in the claims as required by 37 C.F.R. § 41.37. The specification and drawings also include additional support for other exemplary embodiments encompassed by the claimed subject matter. Thus, these references are only intended to be illustrative and not restrictive.

Promotion systems often include point of service or sale devices and portable devices. Such systems generally utilize a set of rules to manage and process transactions. Typically, these rules are centrally managed and elements of the rules or the data used in their application are distributed from a central location, such as a server, to the points of service as needed from time to time on a transaction-by-transaction basis. As a result, the bulk of the programming administration is performed at the central location.

A number of situations often lead to sub-optimal use of such systems, thereby resulting in service delivery that does not meet the performance expectation of the service provider or user. Examples of such situations would include cases where data would be missing or corrupted at the point of service, where the central system would fail to update the rules and data used by the point of service device in a timely fashion, and where centrally defined rules cannot accommodate the variety of situations at the point and time of service, etc. Sub-optimal use includes, for example, a promotion system where the promotional messages used in the portable devices are out of date; a rewards system where the incentive programs in the system are not delivering consumer appeal; and a price definition system where the dynamic shifts of demand and offer at a particular outlet are not properly integrated in a timely manner.

Embodiments of the invention include a system that is capable of handling and processing transactions more efficiently in a distributed manner, and can be applied to point of service devices such as vending machines. For example, vending machines are generally off-line devices that are designed to deliver goods for a set price. Yet many instances would exist to optimize the performance of a given device. The performance of a device could be defined as the maximization of profit margins generated by the device, the maximization of sales per device and the optimization of service calls for the device.

Each of these performance criteria can become the foundation for a set of price setting rules used to fluctuate the price of the goods delivered according to the environment. For instance, soda machines might increase their price when the ambient temperature increases due to the expected increase in demand. Through the use of a local heuristic engine, the elasticity of demand vs. price and temperature can be plotted and extrapolated and therefore prices may be constantly adjusted. Such a method may be used to either maximize profit or to maximize sales, to ensure that most of the demand for the beverages is captured. Other parameters that might easily influence the price of the goods could include the time of day and day of the week, effectively taking into account the sensitivity of demand according to these parameters.

One issue with vending machines is the need to adequately replenish them. In the event of available communications link, a machine might "call for service." Alternatively, the machine may use inventory control and pricing methods to maximize the number of sales in between scheduled service visits, thus reducing the overall cost of servicing the machine and optimizing the sales per unit. Through this example, it can be seen that price can thus be set according to a set of computation rules (in this instance, the price as a function of the goods selected) and meta-rules, comparing the measured vs. desired performance of the system (profit, sales, service calls, etc.) and the measured sensitivity to various local parameters (temperature, time, time to next visit…) to adapt locally the price of the goods delivered, without requiring central intervention.

Embodiments of the invention are encompassed by the pending claims. Independent claim 1, dependent claim 64, and independent claims 68, 76, and 98 are being argued separately in this Appeal Brief. A brief summary of each of these claims is recited below and exemplary supporting passages from the specification and drawings are shown in parenthesis.

Independent claim 1

Claim 1 is directed to a system for providing distributed control to process purchase transactions. The system includes a point of service device having associated there with a plurality of rules and a plurality of meta-rules (paragraph [0012]); and a portable device having associated therewith a plurality of rules and a plurality of meta-rules (paragraph [0013]). The portable device and the point of service device use their associated plurality of rules and plurality of meta-rules to determine an outcome for a purchase transaction (paragraph [0014]). If the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its associated plurality of meta-rules to either determine whether one or more of the plurality of rules associated with either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules associated with the service provider system (paragraph [0019]). The outcome may be a reward (paragraphs [0087] and [0089]). The system further comprises the portable device and point of service device configured to mutually authenticate each other prior to information exchange.

Dependent claim 64

Dependent claim 64 is directed to a system for providing distributed control to process purchase transactions. The system includes a point of service device having associated therewith a plurality of rules and a plurality of meta-rules; (paragraph [0012]) and a portable device having associated therewith a plurality of rules and a plurality of meta-rules (paragraph [0013]). The portable device and the point of service device use their associated plurality of rules and plurality of meta-rules to determine an outcome for a purchase transaction (paragraph [0014]). If the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its associated plurality of meta-rules to either determine whether one or more of the plurality of rules associated with either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules associated with the service provider system (paragraph [0019]). The outcome may be a reward (paragraphs [0087] and [0089]). The portable device may operate using a contactless mode of operation (paragraph [0102]). The system further comprises the portable device and point of service device configured to mutually authenticate each other prior to information exchange.

Independent claim 68

Claim 68 is directed to a system for providing distributed control to process purchase transactions. The system comprises a point of service device having associated therewith a plurality of rules and a plurality of meta-rules, and a portable device having associated therewith a plurality of rules and a plurality of meta-rules (paragraphs [0012]-[0013]). The portable device and the point of service device use their associated plurality of rules and plurality of meta-rules to determine an outcome for a purchase transaction, and if the portable device and the point of service device are unable to determine the outcome for the purchase transaction (paragraph [0014]), the point of service device uses its associated plurality of meta-rules to either determine whether one or more of the plurality of rules associated with either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules associated with the service provider system uses service provider and data logs to determine the outcome of the transaction (paragraph [0019]). The plurality of rules includes at least one price computation rule (paragraph [0052]). The system further comprises the point of service device configured to determine information including time, temperature, weather, or geographical location. The portable device and point of service device configured to mutually authenticate each other prior to information exchange.

Independent claim 76

Independent claim 76 is directed to a method for providing distributed control to process purchase transactions. The method comprises conducting a purchase transaction between a portable device having associated therewith a plurality of rules and a plurality of meta-rules (paragraph [0013]) and a point of service device having associated therewith a plurality of rules and a plurality of meta-rules. The portable device and the point of service device use their associated plurality of rules and plurality of meta-rules to determine an outcome for a purchase transaction (paragraph [0014]). If the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its associated plurality of meta-rules to either determine whether one or more of the plurality of rules associated with either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules associated with the service provider system (paragraph [0019]). The method further comprises the point of service device requesting the network gateway or the service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules in the network gateway or the service provider system (para). The method comprises configuring the portable device and the point of service device to mutually authenticate each other. The method further comprises wherein one or more of the rules in the portable device and the point of service device represent a consumer behavior model. In the method, the point of service device is a vending machine that uses inventory control and pricing methods to maximize the number of sales between service visits (paragraphs [0091] to [0092]).

Independent claim 98

Independent claim 98 is directed to a system for providing distributed control to process purchase transactions. The system comprises a point of service device having associated therewith a plurality of rules and a plurality of meta-rules, and a portable device having associated therewith a plurality of rules and a plurality of meta-rules (paragraphs [0012]-[0013]). The portable device and the point of service device use their associated plurality of rules and plurality of meta-rules to determine an outcome for a purchase transaction, and if the portable device and the point of service device are unable to determine the outcome for the purchase transaction (paragraph [0014]), the point of service device uses its associated plurality of meta-rules to either determine whether one or more of the plurality of rules associated with either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules associated with the service provider system (paragraph [0019]). The plurality of rules includes at least one price computation rule which uses desired system performance to determine the outcome of the transaction (paragraph [0052]). The point of service device is further configured to determine information including the time, temperature, weather, or geographical location. The system further comprises the point of service device and the portable device to be configured to mutually authenticate each other prior to the information exchange.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

In the Final Office Action mailed October 7, 2010, claims 1-5, 7-9, 62, 64-65, 68, 72, 76-78, 80, 83, 87-90, and 95-98 were rejected under 35 U.S.C. §103(a) as being unpatentable over Irwin et al. (U.S. Patent Publication No. 2003/018774), and further in view of Durbin et al. (U.S. Patent 4,970,658), and further in view of Mathew et al. (U.S. Patent Publication No.

2005/0172033), and further in view of Kinoshita et al. (U.S. Patent Publication No. 2003/0055792).

Claims 70 and 81 were rejected under 35 U.S.C. §103(a) as being unpatentable over Irwin et al. et al. (U.S. Patent Publication No. 2003/018774), and further in view of Durbin et al. (U.S. Patent 4,970,658), and further in view of Mathew et al. (U.S. Patent Publication No. 2005/0172033), and further in view of Kinoshita et al. (U.S. Patent Publication No. 2003/0055792), and further in view of Fare et al. (U.S. Patent Publication No. 2004/0204078).

For purposes of this appeal, claims 1, 64, 68 and 98, 76, and 70 and 81 are argued separately. Claims 2-5, 7-9, 62, 64-65, 70, and 72 may stand or fall with respect to independent claim 1. Claims 87-88 may stand or fall with respect to independent claim 68. Claims 77-78, 80-81, 83, 89-91, and 95-97 may stand or fall with respect to independent claim 76.

VII. ARGUMENT

A. Rejection of claims 1-5, 7-9, 62, 64-65, 68, 72, 76-78, 80, 83, and 87-89 as being unpatentable over Irwin et al. et al. (U.S. Pub. No. 2003/0187794 A1), Durbin et al. (U.S. Patent No. 4,970,658), Mathew et al. (U.S. Pub. No. 2005/0172033 A1), and Kinoshita et al. (U.S. Pub. No. 2003/0055792 A1).

1. Independent Claim 1

a. Obviousness has not been established, since all limitations are not taught or suggested by Irwin et al. et al., Durbin et al., Mathew et al., and Kinoshita et al.

i. Nether Irwin et al., Durbin et al., Mathew et al., nor Kinoshita et al., alone or in combination, disclose, teach, or suggest a method or system comprising, inter alia, "a point of service device having a plurality of rules and a plurality of meta-rules"

Obviousness has not been established, since all claim limitations in independent claim 1 are not taught or suggested by the Irwin et al. et al., Durbin et al., Mathew et al., or Kinoshita et al., alone or in combination. Here, Irwin et al. et al., Durbin et al., Mathew et al., and Kinoshita et al. fail to teach or suggest a system comprising, *inter alia*, "a point of service device having a plurality of rules and a plurality of meta-rules" as recited in independent claim 1. The other independent claims recite a similar limitation.

The Examiner alleges that this limitation is taught or suggested at paragraph [0090] of Irwin et al. See page 3 of the Office Action. A "point of service device having a plurality of rules and a plurality of meta-rules" is not taught or suggested by Irwin et al.

As explained previously, in Irwin et al., as shown below, the "user device" is the only device that includes "meta-rules" 120. "meta-rules" are only mentioned once in Irwin et al. at paragraph [0090] and this is also in the context of the user device. Irwin et al. does not describe the use of rules and meta-rules in a point of service device.

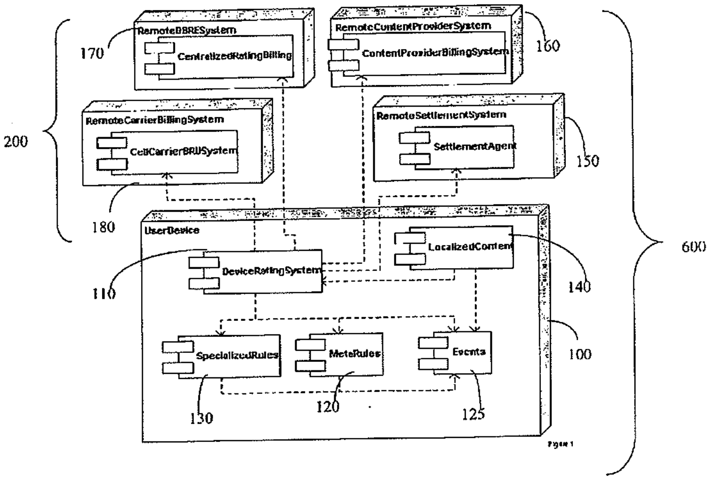


Figure 1

While a "point of sale" device is described at paragraphs [0170] to [0178] of Irwin et al., none of these paragraphs state or suggest that the point of sale device includes "a plurality of rules and a plurality of meta-rules."

At page 42-43 of the Office Action, the Examiner responds by arguing the following:

> As per claim 1, applicant makes the same argument as shown in arguments filed 4/12/10, and argues that prior art fails to disclose or suggest "a point of service device having a plurality of rules and a plurality of meta-rules". Applicant argues that metarules are only disclosed by Irwin in a user device, not a point of service device and argues that although Durbin et al. does mention "meta-rules" at column 10, line 11, Durbin et al. describes the use of "meta-rules" in a "single processor configuration" in a field and end use that is totally different than what is described in Irwin et al. Applicant argues that in claim 1, there are "two" devices which contain a plurality of rules and meta-rules and that even though there is "collaboration" between a user device and a POS terminal in *Irwin,* there is still only one device, the user device, which contains rules and meta-rules. However, examiner maintains her argument. Irwin discloses that the consumer device (DRE) and a merchant's POS can collaborate to determine the customer's final price, and that they act as peers in doing so as shown in [0170]. In addition,, both [0171] and [0174] of Irwin shows a DRE-POS collaboration, and in [0176], it is shown that the POS/DRE establishes a secure wireless connection, where a verified digitally signed token is generated between the two. Although it is shown that the user device uses these rules and meta rules, the POS also utilizing rules and metarules is suggested by Irwin *since the DRE securely collaborates with the POS* through a verified digitally signed token *in order to perform system processing,* and therefore, it is obvious that once this collaboration occurs, rules and metarules are applied collaboratively (at both DRE and the POS) in order to successfully perform processing.

As noted above, in response to Applicants' argument, the Examiner alleges that paragraphs [0170]-[0176] of Irwin et al. teach or suggest "DRE-POS collaboration" and that the POS/DRE establishes a secure wireless connection.

Applicants do not disagree that DRS-POS "collaboration" is mentioned at paragraphs [0170]-[0176] of Irwin et al.. However, independent claim 1 recites "a point of service device having a plurality of rules and a plurality of meta-rules; **and**
a portable device having a plurality of rules and a plurality of meta-rules." Independent claims 68, 76, and 98 recite similar limitations. Thus, in claim 1, there are "two" devices which contain a plurality of rules and meta-rules. Although there is "collaboration" between a user device and a POS terminal in Irwin et al., there is still only one device, the user device, which contains rules and meta-rules.

Irwin et al. clearly teaches away from having a plurality of rules and meta-rules in a POS terminal. As explained in Irwin et al.'s abstract, Irwin et al. describes:

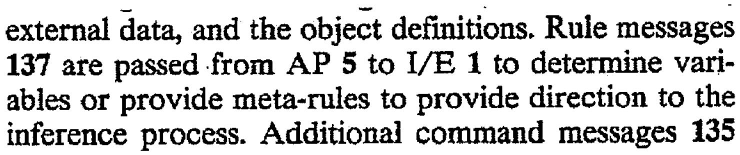
> A system and method for computerized metering, rating, billing and managing of account balances on an end computing device is disclosed herein wherein the end device may facilitate such processing whether the device is connected or is not connected to a network. The end device, furthermore, initiates communications with a host processor to obtain updated algorithms, rating tables and other accouterments necessary or desired to meter, rate, and process payments for transaction events. The end device initiates communications with the host processor or another end device to facilitate the synchronization of usage for pricing plans that span one or more devices.

The entire focus of Irwin et al.'s proposed invention is to allow only the end user device to determine content that the consumer is actually consuming in his end device. This is explained at paragraph [0034] of Irwin et al. which is reproduced below:

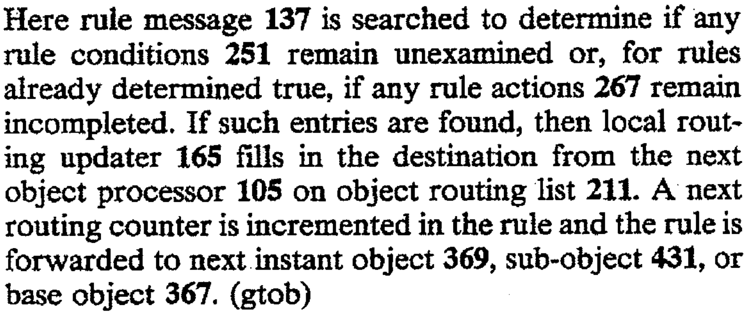
> **[0034]** An advantage to a device-based rating Engine is the end device's ability to determine, in a content-based operation, the type of content that it is actually consuming. Rating plans may be built around content types rather than merely time or byte based and the Engine may be designed to select the proper algorithm for the proper event.

Put another way, the DRE (device based rating engine) in Irwin et al. and any associated meta-rules must be based on an end device such as a hand held or wireless device in order to take advantage of the end device's ability to process data (see Irwin et al., e.g., paragraphs [0034] and [0071]). Providing such rules in a POS terminal would have no benefit or impact on Irwin et al.'s proposed device based rating engine, which is supposed to determine the usage of content on an end user device. Clearly, a point of sale device is not the type of device that uses Irwin et al.'s DRE or meta-rules. Because of this, the alleged reason to combine Irwin et al. and Durbin et al. is not only insufficient, the disclosure of Irwin et al. actually teaches away from the modification proposed by the Examiner.

As explained previously, Durbin et al. similarly fails to teach or suggest "a point of service device having a plurality of rules and a plurality of meta-rules" as recited in independent claim 1. Durbin et al. describes a "knowledge engineering tool" for building expert systems (see Durbin et al., e.g., the abstract). Durbin et al.'s "knowledge engineering tool" does not even remotely contemplate that it can be used with a device rating system like the one described in Irwin et al. Despite this, the Examiner relies on column 10, lines 9-12 and column 25, lines 44-52 of Durbin et al. (see, e.g., page 5 of the Office Action). These passages from *Durbin et al.* are reproduced below.



> **external data, and the object definitions. Rule messages 137 are passed from AP 5 to I/E 1 to determine variables or provide meta-rules to provide direction to the inference process. Additional command messages 135**



> **Here rule message 137 is searched to determine if any rule conditions 251 remain unexamined or, for rules already determined true, if any rule actions 267 remain incompleted. If such entries are found, then local routing updater 165 fills in the destination from the next object processor 105 on object routing list 211. A next routing counter is incremented in the rule and the rule is forwarded to next instant object 369, sub-object 431, or base object 367. (gtob)**

Clearly, neither passage even remotely describes "a point of service device having a plurality of rules and a plurality of meta-rules." In fact, a point of service device is not described at all in Durbin et al. Although Durbin et al. does mention "meta-rules" at column 10, line 11, Durbin et al. describes the use of "meta-rules" in a "single processor configuration" in a field and end use that is totally different than what is described in Irvin et al. Accordingly, there is clearly no suggestion in Durbin et al. to use meta-rules in a point of sale device, let alone two separate devices like the portable device and the point of service device in independent claim 1 and in other independent claims.

Neither Mathew et al. nor Kinoshita et al. are relied upon by the Examiner as teaching or suggesting "a plurality of rules and meta-rules in a POS terminal." Accordingly, since none of the cited references teaches or suggests a method comprising, inter alia, "a plurality of rules and meta-rules in a POS terminal," obviousness has not been established.

ii. *Neither Irwin et al., Durbin et al., Mathew et al., nor Kinoshita et al. teaches or suggests a method or system including, inter alia, "wherein if the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its plurality of meta-rules to either determine whether one or more of the plurality of rules in either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of riles and the plurality of meta-rules in the service provider system"*

None of the cited references teaches or suggests a method comprising "wherein if the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its plurality of meta-rules to either determine whether one or more of the plurality of rules in either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules in the service provider system" as recited in independent claim 1. The other independent claims recite a somewhat similar limitation.

In response to this argument, at page 38-39 of the Office Action, the Examiner states the following:

As per claim 1, applicant also makes the same argument as shown in arguments filed 4/12/10. Applicant also argues that Irwin et al. and Durbin et al. also fail to teach or suggest "wherein if the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its plurality of meta-rules to either determine whether one or more of the plurality of rules in either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules in the service provider system". While the Applicants do not disagree that *Durbin* may describe rule messages that are "searched," searching a rule message is cannot be equated with the features of "wherein if the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its plurality of meta-rules to either determine whether one or more of the plurality of rules in either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules in the service provider system." However, examiner still maintains her argument. As disclosed above in the

> rejection, Durbin et al discloses that a rule message is searched to determine if any rule conditions remain unexamined or, for rules already determined true, if any rule actions remain incomplete, and if such entries are found, then local routing updater fills in the destination from the next object processor on object routing list, and a next routing counter is incremented in the rule and the rule is forwarded to next instant object, sub-object, or base object 367, as shown in col. 25, lines 44-52. Durbin et al also discloses that Rule messages 137 are passed from AP 5 to I/E 1 to determine variables or provide meta-rules to provide direction to the inference process in col. 10, lines 9-12, thereby suggesting that meta-rules can also be searched since they make up the rules that are searched. In this case, examiner interprets that if any rule conditions remain unexamined, then the portable device and the point of service device are unable to determine the outcome for the purchase transaction, and a next routing counter being incremented in the rule represents the rule being altered locally. In combination with Irwin, "wherein if the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its plurality of meta-rules to either determine whether one or more of the plurality of rules in either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules in the service provider system." is disclosed since rule messages are searched in order to implement any type of processing.

While the Applicants do not disagree that Durbin et al. may describe rule messages that are "searched," searching a rule message is cannot be equated with the features of "wherein if the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its plurality of meta-rules to either determine whether one or more of the plurality of rules in either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules in the service provider system."

For example, Durbin et al. fails to teach or suggest the replacement of a rule "if" a portable device and a point of service device are unable to determine the outcome of a purchase transaction. In fact, Durbin et al. is directed to an "expert system" that is based on artificial intelligence. There is no need for or ability to determine the outcome of a purchase transaction between two different devices disclosed in Durbin et al. Consequently, Durbin et al. clearly fails to teach or suggest at least the features of "wherein if the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its plurality of meta-rules to either determine whether one or more of the plurality of rules in either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules in the service provider system."

b. *Obviousness has not been established, since Durbin et al., Irwin et al. et al., Mathew et al., and Kinoshita et al. are in very different fields and the reason to combine references is insufficient to establish obviousness*

Obviousness has not been established, because the cited references are very different from each other, and one would not have been led to combine them in the manner proposed by the Examiner, because they are so different. As noted above, Durbin et al. is directed to a system that includes a "device rating engine" in an end user device such as a music player. The entire focus of Irwin et al.'s proposed invention is to allow only the end user device to determine content that the consumer is actually consuming in his end device. Irwin et al. et al. is directed to a "knowledge engineering tool" that relates to artificial intelligence (machine learning). See the Background of the Invention section in Irwin et al.. Irwin et al. fails to mention or discuss "device rating engines" or anything remotely related to "device rating engines." Mathew et al. is in the field of message and document management. See the Field of the Invention section in Mathew et al.. Mathew et al. fails to describe anything remotely related to device rating engines or artificial intelligence. Lastly, Kinoshita et al. fails to describe anything remotely related to device rating engines, artificial intelligence, or message and document management. Given the extreme diversity of subject matter in the four references needed to reject even the broadest claims, Applicants respectfully submit that obviousness has clearly not been established.

c. *Obviousness has not been established, since the motivation to combine the references is from Applicants' disclosure and not taught or suggested by the prior art*

Obviousness has not been established, since the motivation to combine the Irwin et al., Durbin et al., Mathew et al., and Kinoshita et al. is not taught or suggested by the prior art. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so. in re Fine, 937 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). MPEP 2143.01. As explained by the Court of Appeals for the Federal Circuit and the MPEP:

> The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). MPEP 2142.

The Examiner alleges that the motivation to combine Irwin et al. and Durbin et al. relates to "using a set of rules that can be adjusted to accommodate for the determination of a transaction" (see pages 6-7 of the Office Action). Here, the alleged motivation to combine the cited references is not found in the cited art, but was inappropriately taken from the Applicants' own disclosure. The only place of record that teaches or suggests "using a set of rules that can be adjusted to accommodate for the determination of a transaction" is in the Applicants' own specification (e.g., in the "Brief Summary of the Invention"). It is clear that the Examiner's use of the advantages described in Applicants' own specification to reject Applicants' own claims is improper. Obviousness has not been established for yet another reason.

At page 38 of the Office Action, the Examiner responds to Applicants' arguments that the references cannot be combined in the manner proposed by the Examiner by citing the KSR case. The Examiner's arguments do not address Applicants' argument that the reason to combine the cited reference must be suggested by the prior art (i.e., one of ordinary skill at the time of the invention) and cannot be extracted from Applicants' specification, and the Examiner has relied upon the use of impermissible hindsight in her rejection of the claims. Thus, for yet another reason, obviousness has not been established.

2. Dependent Claim 64

Dependent claim 64 depends from independent claim 1, and is allowable for the same reasons as provided above with respect to independent claim 1.

a. None of the cited references teaches a portable device that operates using a "contactless" mode of operation.

In addition, obviousness has not been established with respect to dependent claim 64, since none of the cited references teaches a portable device that operates using a "contactless" mode of operation. Dependent claim 64 is rejected at page 2 of the Office Action, however there is no rejection in the remainder of the Office Action that mention where a portable consumer device uses a "contactless" mode of operation can be found in any of the cited art. The rejection of dependent claim 64 is clearly improper since it is not even addressed in the final Office Action.

3. Independent Claims 68 and 98

a. Obviousness has not been established, since all limitations are not taught or suggested by the cited art.

i. Neither Irwin et al. et al., Durbin et al., Mathew et al. nor Kinoshita et al. discloses or suggests a method or system including, inter alia, "wherein the at least one price computation rule uses service provider and data logs to determine the outcome of the transaction" as recited in independent claims 68 and 98.

None of the cited references teaches or suggests a method comprising "wherein the at least one price computation rule uses service provider and data logs to determine the outcome of the transaction," as recited in independent claims 68 and 98.

In rejecting this limitation, which was previously recited in now canceled dependent claim 85, the Examiner states:

> wherein the at least one price computation rule uses service provider and data logs to determine the outcome of the transaction, ([0148], shows that each subscriber may have a user interface connected to their own on-device billing and rating Engine which allows the user to query the device for information relating to their account (usage, charges, etc.), and as events occur and are priced and balances are adjusted, the DRE may maintain a running log of such transactions, where these logs may record various attributes of the event processing (data and time, location, etc.), and may be transferred to back-end systems for long-term storage and balance reconciliation).

However, paragraph [0148] of Irwin et al. actually states:

> [0148] Another aspect to the DRE may include the deflection of self-care from a call center to the end device. Each subscriber may have a user interface connected to their own on-device billing and rating Engine which allows the user to query the device for information relating to their account (usage, charges, etc.). As events occur and are priced and balances are adjusted, the DRE may maintain a running log of such transactions. These logs may record various attributes of the event processing (data and time, location, etc.). These logs may be transferred to back-end systems for long-term storage and balance reconciliation. The policy for such interactions may be configurable.

As seen above, paragraph [0148] is actually in reference to the DRE being able to deflect self-care from a call center to the end device, and not "wherein the at least one price computation rule uses service provider and data logs to determine the outcome of the transaction," as alleged by the Examiner.

4. Independent Claim 76

a. Obviousness has not been established, since all limitations are not taught or suggested by the cited art.

i. Neither Irwin et al., Durbin et al., Mathew et al., nor Kinoshita et al. discloses or suggests a method or system including, inter alia, "...wherein one or more of the rules in the portable device and the point of service device represent a consumer behavior model, wherein the point of service device is a vending machine, wherein the vending machine uses inventory control and pricing methods to maximize the number of sales between service visits" as recited in independent claim 76.

None of the cited references teaches or suggests a method comprising "...wherein one or more of the rules in the portable device and the point of service device represent a consumer behavior model, wherein the point of service device is a vending machine, wherein the vending machine uses inventory control and pricing methods to maximize the number of sales between service visits," as recited in independent claim 76.

In rejecting these features, at page 21-22 the Examiner states:

> wherein the point of service device is a vending machine, ([0064], vending machines).
>
> wherein the vending machine uses inventory control and pricing methods to maximize the number of sales between service visits, ([0064] The DRE may comprise a general-purpose rating and billing Engine hosted on a wide variety of end devices which may not be specific to any industry. The DRE processes events which may include content consumption events (i.e., download or read a book, open a WebPage, check a stock portfolio, etc.) or transaction events (i.e., online purchases or other non-content-based services)--any activity capable of being measured, billed, or authorized, and is shown to be applied to vending machines, and in [0078] shows that a commercial transaction occurring via a Peer-to-Peer application networking running over WLAN connection can be between a vending machine and a PDA or a public kiosk, and in

> [0163], Irwin discloses that the Central System (170) may also provide additional billing and rating functions that employ a cross-device perspective. This may allow the end provider to support price plans that take advantage of cross-product discounts, specialized loyalty arrangements, and access to shared/pooled resources such as pooled game minutes, shared volumes of downloaded content, etc. For example, in an embodiment of this functionality, a family could purchase a plan that allowed them a certain shared number of video clips per month that would be shared across all of the devices (100). As they were used, the end device (100) may reserve the content and provide the on-device billing and balance while the CRB (170) may handle the reservation and perform the end reconciliation across the devices (100). This shared perspective of the CRB (170) may also allow discounts to be provided which may be downloaded to the device (100) as a credit to the kept balance, ad finally, in [0168] Irwin shows a Peer Balance Leveling model, where the DRE instances on the devices participating in a billing arrangement could "spend" balance among themselves. The peers use a peer configured as a coordinator to maintain the master balance. The coordinating peer may be the peer that must synchronize with the central system to purchase additional units and perform sanity checks on the master balance. When the peers rendezvous with the coordinating peer, as described in the previous section, they have the opportunity to shift unused balances from one device to another based on spending patterns derived from usage events. This model allows devices with higher unused balances to be shifted to devices that consume higher amounts of units. In the previous examples, the scheme of implementing price plans to allow discounts to be provided to the end user suggests using pricing methods to maximize the number of sales since the end user must purchase a plan that allows for this type of discount. In addition, the example of purchasing additional units and shifting balances, based on spending patterns, to devices consuming higher amounts of units represents using inventory control to maximize the number of sales).

However, paragraphs [0064] and [0088] of Irwin et al. actually state:

> **[0064]** The DRE may comprise a general-purpose rating and billing Engine hosted on a wide variety of end devices which may not be specific to any industry. The DRE processes events which may include content consumption events (i.e., download or read a book, open a WebPage, check a stock portfolio, etc.) or transaction events (i.e., online purchases or other non-content-based services)—any activity capable of being measured, billed, or authorized. The end device may comprise any device capable of hosting content or offering a meterable service. The end device may be fixed or mobile, distributed or centralized (i.e., where a server itself may be actually consuming content or engaging in a transaction event as opposed to merely delivering content to a client system.) Content may even be stored and consumed later on the end-device when the end-device is off-network. Preferably, some, at least periodic (scheduled), intermittent (random), or occasional (user-initiated), connection to a network may be available. The following list of potential end devices is meant to be explanatory rather than limiting: mobile devices, pagers, cell phones, PDAs, laptops, desktops, game consoles, set-top boxes, appliances such as televisions and washing machines, services, personal computers, stereos, walkmen, MP3 players, DVD player (handheld or otherwise), vending machines, rental equipment and more.
>
> **[0088]** The DRE model may be particularly suited toward a prepaid model where the balance persists even when the consumer may be out of range of the network. This disconnected mode may occur by environment (inside a building, elevator, or tunnel), regulation (airplane), or choice (power-saving mode). Also, in the prepaid model, a platform may be designed to deal with micro-payments which are currently associated with high processing and transmission costs.

Although, vending machines are mentioned in paragraph [0064] of Irwin et al., vending machines are only mentioned in passing as a possible end device on which "[c]ontent may even be stored and consumed later on the end-device when the end-device is off-network, but does not teach or suggest "wherein one or more of the rules in the portable device and the point of service device represent a consumer behavior model, wherein the point of service device is a vending machine, wherein the vending machine uses inventory control and pricing methods to maximize the number of sales between service visits," as recited in independent claim 76. Moreover, paragraph [0088] merely suggests that the DRE may be "…particularly suited toward a prepaid model where the balance persists even when the consumer may be out of range of the network," and that "[t]his disconnected mode may occur by environment (inside a building, elevator, or tunnel), regulation (airplane), or choice (power-saving mode." Again, paragraph [0088] of Irwin et al. fails to teach or suggest the above-identified features with respect to independent claim 76.

At least two limitations in each of the independent claims is not taught or suggested by the cited art, so obviousness has clearly not been established.

B. Rejection of claims 70 and 81 as unpatentable over Irwin et al. (U.S. Patent Publication No. 2003/0187794), Durbin et al. (U.S. Patent 4,970,658), Mathew et al. (U.S. Patent Publication No. 2005/0172033), Kinoshita et al. (U.S. Patent Publication No. 2003/0055792), and Fare et al. (U.S. Patent Publication No. 2004/0204078)

1. Dependent claims 70 and 81

Dependent claims 70 and 81 depend on independent claims 1 and 76, respectively, and is allowable for the same reasons as provided above with respect to independent claims 1 and 76.

VIII. CONCLUSION

For these reasons, it is respectfully submitted that the rejection should be reversed.

Respectfully submitted,

/Patrick R. Jewik/

Patrick R. Jewik
Reg. No. 40,456

KILPATRICK TOWNSEND & CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 415-576-0200
Fax: 415-576-0300

63093926 v1

IX. CLAIMS APPENDIX

Claim 1. A system for providing distributed control to process purchase transactions, comprising:

a point of service device having a plurality of rules and a plurality of meta-rules; and

a portable device having a plurality of rules and a plurality of meta-rules;

wherein the portable device and the point of service device use their plurality of rules and plurality of meta-rules to determine an outcome for a purchase transaction; and

wherein if the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its plurality of meta-rules to either determine whether one or more of the plurality of rules in either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules in the service provider system,

wherein the plurality of meta-rules in the point of service device includes a meta-rule for replacing at least one rule in the plurality of rules in the point of service device with another rule,

wherein the outcome is a reward,

wherein the point of service device and the portable device are configured to mutually authenticate each other prior to information exchange.

Claim 2. The system of claim 1 further comprising:

a network gateway having a plurality of rules and a plurality of meta-rules;

wherein if the portable device and the point of service device are unable to determine the outcome, the point of service device uses its plurality of meta-rules to either determine whether one or more of the plurality of rules in either the portable device or the point of service device can be altered locally in order to determine the outcome or request the network gateway to help determine the outcome using the plurality of rules and the plurality of meta-rules in the network gateway.

Claim 3. The system of claim 2 wherein if the network gateway is unable to determine the outcome using its plurality of rules, the network gateway uses its plurality of meta-rules to either determine whether one or more of its plurality of rules can be altered locally in order to determine the outcome or request the service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules in the service provider system.

Claim 4. The system of claim 1 wherein the point of service device uses historical purchase transaction information to update the plurality of rules and the plurality of meta-rules in the portable device in order to render processing of purchase transactions more efficient.

Claim 5. The system of claim 1 wherein the service provider system uses historical purchase transaction information to update the plurality of rules and the plurality of meta-rules in the portable device and the point of service device in order to render processing of purchase transactions more efficient.

Claim 6. (Canceled).

Claim 7. (Original) The system of claim 1 wherein the system is implemented using software, hardware or a combination of both.

Claim 8. The system of claim 1 wherein the portable device includes at least one of a smart card, a memory stick, a dongle, a personal digital assistant, a cellular phone and a pager.

Claim 9. The system of claim 1 wherein the point of service device includes at least one of a personal computer, a point of sale device, a kiosk, an automatic teller machine and a cellular phone.

Claims 10.-61. (Canceled).

Claim 62. The system of claim 1
wherein the outcome is determined using a price computation process.

Claim 63. (Canceled).

Claim 64. The system of claim 1 wherein the portable device and the point of service device are configured to conduct the purchase transaction using a contactless mode of operation.

Claim 65. The system of claim 64 wherein the point of service device is a vending machine.

Claims 66.-67. (Canceled).

Claim 68. A system for providing distributed control to process purchase transactions, comprising:

a point of service device having a plurality of rules and a plurality of meta-rules; and

a portable device having a plurality of rules and a plurality of meta-rules;

wherein the portable device and the point of service device use their plurality of rules and plurality of meta-rules to determine an outcome for a purchase transaction; and

wherein if the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its plurality of meta-rules to either determine whether one or more of the plurality of rules in either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules in the service provider system, wherein the plurality of rules includes at least one price computation rule, and

wherein the point of service device is further configured to determine information including the time, temperature, weather, or geographical location,

wherein the point of service device and the portable device are configured to mutually authenticate each other prior to information exchange,

wherein the at least one price computation rule uses service provider and data logs to determine the outcome of the transaction.

Claim 69. (Canceled).

Claim 70. The system of claim 1 wherein the point of service device is a phone.

Claim 71. (Canceled).

Claim 72. The system of claim 1 wherein the point of service device is further configured to determine geographical location.

Claims 73.-75. (Canceled)

Claim 76. A method for providing distributed control to process purchase transactions, comprising:

conducting a purchase transaction between a portable device having a plurality of rules and a plurality of meta-rules and a point of service device having a plurality of rules and a plurality of meta-rules, wherein the portable device and the point of service device use their plurality of rules and plurality of meta-rules to determine an outcome for the purchase transaction; and

wherein if the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its plurality of meta-rules to either determine whether one or more of the plurality of rules in either the portable device or the point of service device can be altered locally in order to determine the outcome or request a network gateway or a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules in the network gateway or the service provider system, and wherein the method further comprises:

requesting, by the point of service device, the network gateway or the service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules in the network gateway or the service provider system, and wherein the method further comprises mutually authenticating the portable device and the point of service device,

wherein one or more of the rules in the portable device and the point of service device represent a consumer behavior model,

wherein the point of service device is a vending machine,

wherein the vending machine uses inventory control and pricing methods to maximize the number of sales between service visits.

Claim 77. The method of claim 76 wherein the outcome is a reward.

Claim 78. The method of claim 76 wherein the outcome is determined using a price computation process.

Claim 79. (Canceled).

Claim 80. The method of claim 76 wherein the point of service device is further configured to determine information including the time, temperature, weather, or geographical location.

Claim 81. The method of claim 76 wherein the point of service device is a phone.

Claim 82. (Canceled).

Claim 83. The method of claim 76 further comprising:

altering one or more of the plurality of rules in either the portable device or the point of service device after the point of service device is unable to determine the outcome.

Claim 84.-86 (Canceled)

Claim 87. The system of claim 68 wherein the at least one price computation rule uses value setting data to determine the outcome of the transaction.

Claim 88. The system of claim 68 wherein the point of sale device is configured to acquire time of day and temperature data during the transaction.

Claim 89. The method of claim 76 wherein the point of sale device is configured to acquire time of day and temperature data during the transaction.

Claim 90. The method of claim 76 further comprising providing an offer to a user of the portable device.

Claim 91.-94. (Canceled).

Claim 95. The method of claim 76 wherein the information includes a transaction number.

Claim 96. The method of claim 95 wherein the information further includes a transaction cryptogram.

Claim 97. The method of claim 76 wherein the point of service device comprises a service log.

Claim 98. A system for providing distributed control to process purchase transactions, comprising:

a point of service device having a plurality of rules and a plurality of meta-rules; and

a portable device having a plurality of rules and a plurality of meta-rules;

wherein the portable device and the point of service device use their plurality of rules and plurality of meta-rules to determine an outcome for a purchase transaction; and

wherein if the portable device and the point of service device are unable to determine the outcome for the purchase transaction, the point of service device uses its plurality of meta-rules to either determine whether one or more of the plurality of rules in either the portable device or the point of service device can be altered locally in order to determine the outcome or request a service provider system to help determine the outcome using the plurality of rules and the plurality of meta-rules in the service provider system, wherein the plurality of rules includes at least one price computation rule, and

wherein the point of service device is further configured to determine information including the time, temperature, weather, or geographical location,

wherein the point of service device and the portable device are configured to mutually authenticate each other prior to information exchange, and

wherein the at least one price computation rule uses desired system performance to determine the outcome of the transaction.

X. EVIDENCE APPENDIX

None.

XI. RELATED PROCEEDINGS APPENDIX

None.